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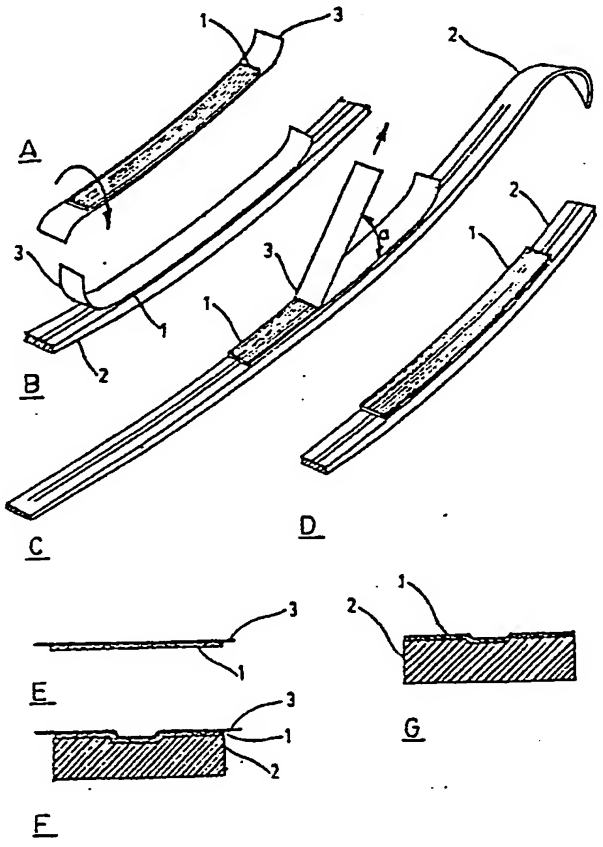
(54) Title: DEVICE FOR WAXING SKIS

(57) Abstract

Producers of ski wax market the wax in a form of raw material in blocks, boxes and tubes. The consumers are left with the difficult and usually unpleasant task of further transforming the substance of wax into the very thin layer of wax which is suitable for the use on the running surfaces of the skis. The process of waxing skis has fundamentally not changed since ski wax was first marketed approximately 70 years ago. This invention relates to a product which makes it practical to prefabricate the ski wax substance industrially, to the final shape and size required for the use on the running surfaces of the skis, and that the preshaped band of wax is arranged on a removable flexible protective band which facilitates handling and transferring the very thin wax-band directly to the running surfaces of the skis. Then the protective band is removed.



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Device for waxing skis.

Technical field.

This invention relates to means for transfering ski wax substance in the shape of bands arranged on flexible protective bands, directly to the running surfaces of skis.

Technical stand.

It is known that skis for all ski sport activities are waxed. For slalom, downhill and jumping, the intention of the wax is to reduce the friction between skis and snow to a minimum. For this purpose different types of solid wax are used, which first have to be rubbed off against the skis and then smoothen out the surface. Liquid ski wax which needs time to harden, may also be used.

For cross-country skiing it is likevise important for the skis to have good sliding qualities, but at the same time it is highly desirable for the wax to provide a best possible gripping effect in the kick off stage and enable skiers to walk uphill as much as possible with skis in a straight forward paralell position. The market for cross-country wax is now mainly dominated by two types. One is a liquid or semiliquid wax substance contained in tubes.This wax has to be smoothened out after being placed on the ski, by the use of wooden or plastic sticks. The other type of wax was first marketed in about 1915. This wax is also adhesive and sticky and contained in small cylindrical boxes made of thin metal or plastic. To use the wax, parts of the box first have to be torn off before the wax is rubbed off against the ski. The sticky wax will deposite on the ski in lumpy uneven layers which are difficult to smoothen out. Several tools are marketed for this purpose, but the best results are usually obtained using the bare hands. In order to avoid the unpleasant and often greasy waxing process, running surfaces with relief patterns have been devolped to prevent the skis from gliding as well backwards as forward.

These so-called "no-wax" skis have according to experts,not solved the waxing problem, because these types of skis perform unsatisfactory except within a very narrow section of the total possible temperature and snow conditions.

It is further known that experiments have been made for gluing structural separate soles which may be waxed, to the running surfaces. These products have not proved to be practical and are not marketed.

Cross-country wax is manufactured in many different types of chemical compositions. Small changes (2-3 ^{o} C)in temperatures and changes in snow and weather conditions,make it necessary to choose between the special types of wax to obtain the desired combination of the sliding-gripping qualities.

The process of waxing skis requires a sertain amount of muscular strength and training, and the process is in particular rather difficult to perform for beginners and children. Even the grown-up skiers usually consider the waxing process to be unpleasant. Cross-country wax is very sticky and attaches easily to hands, clothes and tools. The waxing process is considered so demanding and unpleasant, that the use of wax therefore is reduced far below what would be adequate to experience the feeling of "good skis" and the full satisfaction of the sport.

At the present time ski wax is marketed in solid blocks, in tubes and in boxes. It is left to the consumers to transform the adhesive and sticky wax substance into the necessary very thin layer which is desired for use on the running surfaces of the skis.

1 Description of the invention.

The prinsipal object of the present invention is to provide a product which will make the process of waxing skis simpler and cleaner, and make the waxing easy to perform for most people, also the beginners and children including the ones of a relative young age.

The present invention achives the objectives by making industrial prefabrication of the wax substance possible. The consumers are offered the wax substance preformed to the final shape best suitable for the desired function when attached directly to the running surface of the skis.

The wax substance is fabricated in longitudinal band-form with suitable dimentions. One surface is attached to a flexible removable band which will protect the wax substance during handeling and shipment and will also be an important aid when attaching the band of wax to the running surfaces of the skis. The assembly of the ski wax in the band-form and the protective band, may be packed in a longitudinal shape or rolled into a cylindrical form.

During the waxing process the free uncovered surface of the wax band is placed or unrolled directly against the running surfsces of the skis. The protective band will still be attached to the other surface of the wax band. Using the hands or other means, pressure is applied to or it is rubbed against the protective band, until the layer of wax is securely attached directly to the running surface. No other objects are permanently fastened to the skis. Hands or other objects need not come in contact with the wax substance. Due to the relative suitable adhesiveness between the wax and the protective band, this is now removed.

If the wax substance is liquid or semiliquid, the substance can be covered by protective bands on both sides, or one

band wrapped around both surfaces, and these bands may be sealed around the edges. This sealing may be performed in such a way that the bands later may be separated when desired. The wax substance will then be distributed evenly on each band. One band is used for waxing each ski. The waxing process progresses further as described above. Protective bands with wax substance still attached, may be folded or rolled up to avoid external sticky surfaces.

The invention is further disclosed in the claims, in the drawings and in the descriptions of these.

Description of figures.

Fig. 1A shows wax substance prefabricated into a longitudional band-form 1 which is attached to a flexible protective band 3 with a desired low adhesive capability.

Fig. 1B shows that the free uncovered surface of the wax-band 1 is placed directly against the running surface of the ski 2.

Fig. 1C shows that the protective band 3 is removed or torn off, from the wax-band 1. This must be done at the latest just before the use of the skis. The protective band 3 should be torn off in such a manner which make the angle between the band and the ski, as small as possible. The protective band 3 has a suitable small adhesiveness relative to the wax, which makes it possible to tear off the protective band 3 easily without detaching the wax-band 1 from the ski 2.

Fig. 1D shows the final result of the waxing process. The wax substance in the final desired shape suitable for use, is securely attached directly to the running surface of the ski 2. The waxing is performed not requiring the hands, clothes or possible tools, to contact the adhesive wax. The width of the wax-band 1 is adapted to the width of the ski and the thickness and length, is produced according to intentions and requirements. The wax substance is attached directly to the running surface of the ski 2, in its final desired shape and no further efforts are required. The running surface of the ski may be heated before the wax-band is attached. After the wax with the protective band, is placed on the ski, heat could be applied to melt the wax into plastic linings on running surfaces. This would be desirable when waxing alpine skis.

Fig. 1E shows a cross section of wax substance in band-form

attached to a protective band 3.

Fig. 1F shows a cross section of a ski 2 with the free uncovered side of the wax-band 1 placed against the running surface of the ski 2, and the protective band 3 attached to the other side of the wax-band 1.

Fig. 1G shows the results after the protective band 3 is removed. The running surface of the ski is supplied with a thin coat of the desired wax substance.

Fig. 2 shows a ski 2 supplied with a coat of gliding wax 1a in the full length of the ski 2 and a cross-country grip-wax 1b in a shorter length attached to the middle of the ski. This is a commen manner used to wax cross-country skis. Jumping-, slalom- and downhill skis are waxed entirely with gliding wax in the full length.

Fig. 3 shows that the wax-band 1 with the attached protective band 3, rolled up into a cylindrical shape. In the waxing process the free uncovered surface of the wax-band 1 is rolled on to the running surface of the ski 2. The waxing process proceeds as described above.

Fig. 4 shows a protective band 4 folded to form loops 4a which can rotate frily avay from the surface to which band 4 is attached. The protective band 4 may be perforated or cut in the middle of the loops. The purpose is to ease the beginning of the tear-off action, as well as to facilitate the roll-up action of the assembly consisting of wax-band 1 and band 4.

Fig. 5 shows a wax substance 1 in a solid, liquid or semi-liquid condition, between two flexible bands 5 and 6,where these bands are wider and longer than, and stretch outside the edges of the layer of wax. If desired the two bands 5 and 6, may be sealed against each other at the edges in

such a manner that they again may be separated when wanted. When liquid or semiliquid wax 1 is used, the wax will be evenly distributed on the two bands 5 and 6, when these are separated. Each of these bands may therefore be used to wax each ski in a pair. The waxing process can further be performed as described for fig.1. When the protective bands are removed from the skis, some of the most sticky wax may remain on the bands 5 and 6. These bands may therefor be folded or rolled together to avoid external sticky surfaces.

Best mode contemplated for carrying out the invention and Industrial exploitation.

Based on the descriptions in the sections above and the attached drawings, it is asumed that further explanations are unnecessary.

PATENT-CLAIMS.

1. Device related to waxy adhesive ski wax for attachment to running surfaces of skis or other running surfaces, characterized by that the ski wax substance preformed as a longitudinal band of wax (1), is arranged on a flexible detachable protective band (3), further that the protective band (3), after the other uncovered surface of the band of wax (1) is directly attached to the running surface of skis (2) by applying pressure and due to adhesive effects, is being removed.

2. Device according to claim 1, characterized by that the two side surfaces of the protective band (3), have different adhesive qualities relative to the band of wax (1).

3. Device according to claim 1, characterized by that the band of wax (1),is arranged on an additional protective band,or between the bands (5) and (6), which are wider and longer than the band of wax (1), and that the protective bands (5) and (6) are sealed for latter being detachable, at the free edges facing each other outside the band of wax (1), and that the bands (5) and (6) are separatable before starting the process of transfering the wax substance to the skis.

4. Device according to claim 3, characterized by that the bands (5) and (6) are replaced by one band (5a) of sufficient width, to be folded around the band of wax (1), and that the edges facing each other outside the band of wax (1), are sealed for later to be detachable.

5. Device according to claim 1, 2, 3 and 4, characterized by that the protective bands are replaced by other types of suitable coatings which

partly or totally cover the band of wax (1).

6. Device according to claims 1, 2, 3, 4 and 5, characterized by that the protective bands, for instance band (4), is arranged cross-wise in loops (4a) to facilitate the starting of the removal of band (4), and that band (4) may be cut or perforated (4b) in the middle of the loops.

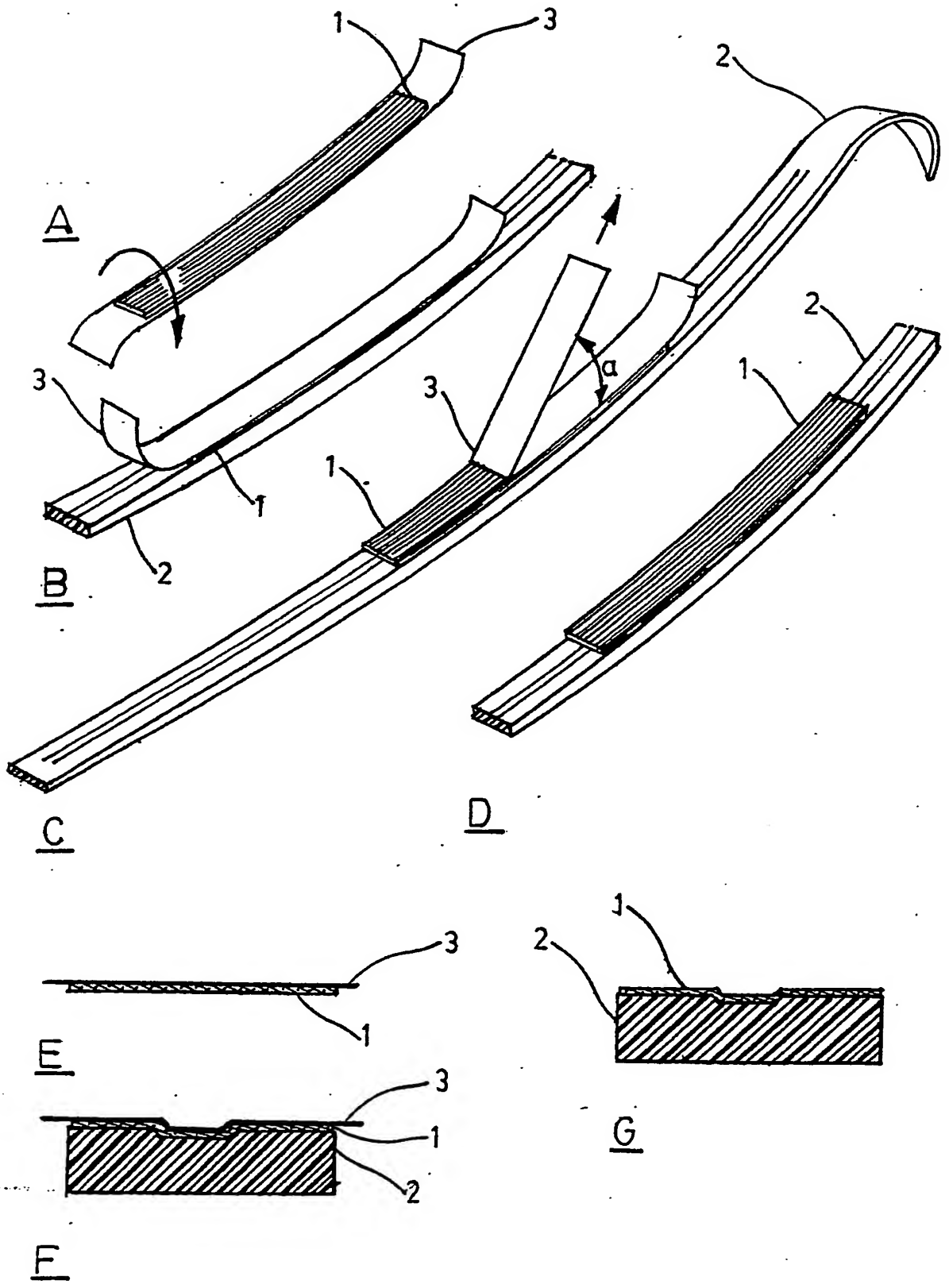

FIG. 1

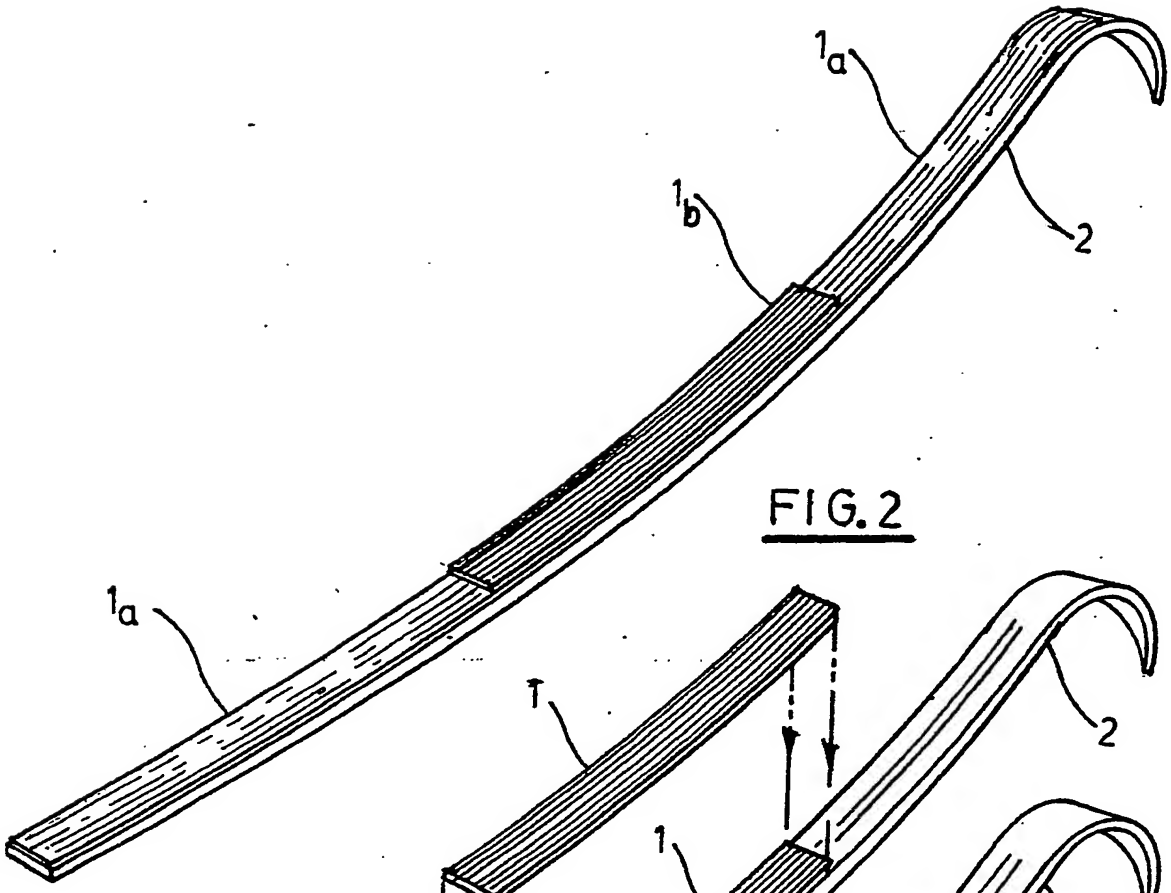

FIG. 2

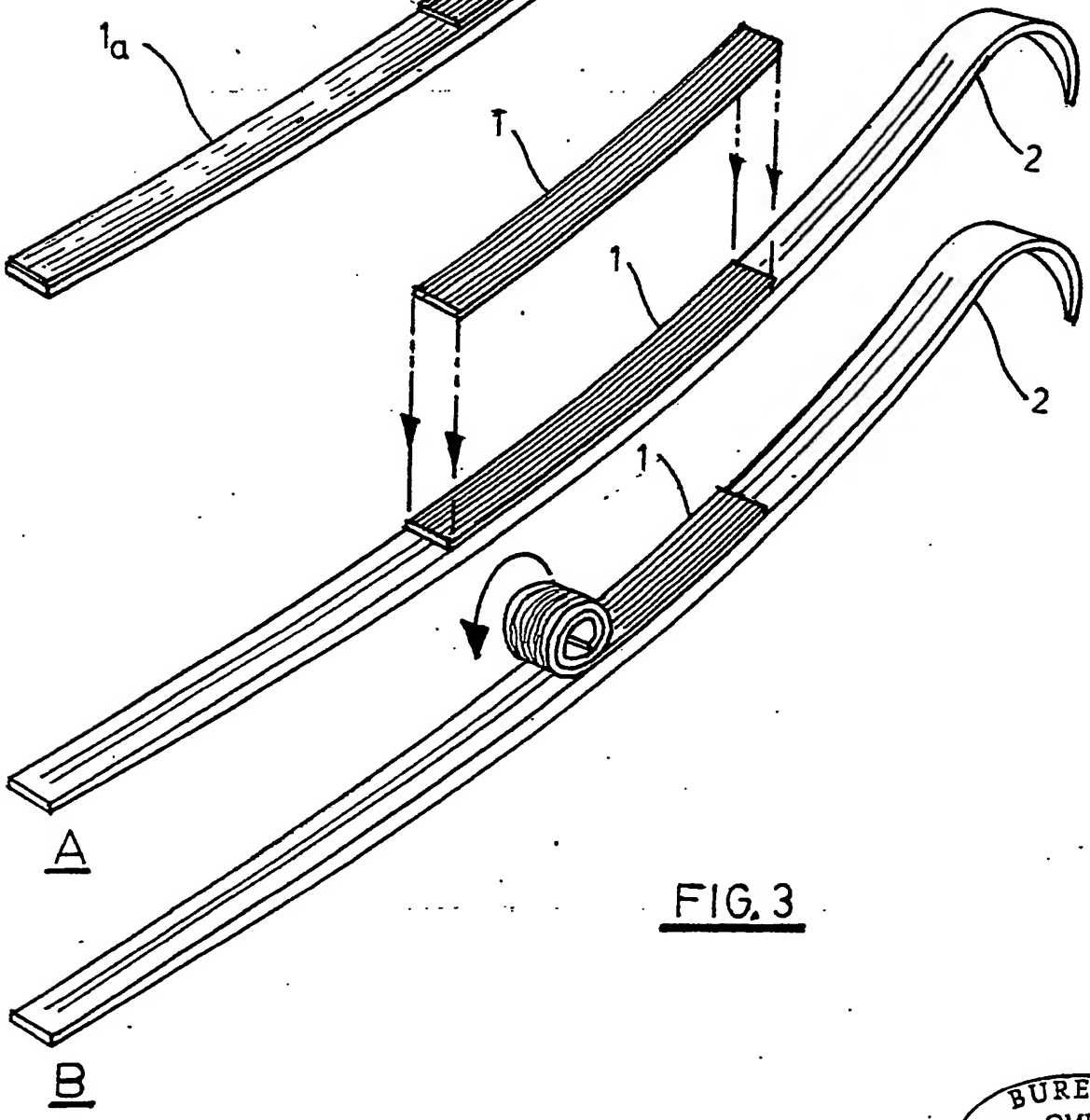

FIG. 3

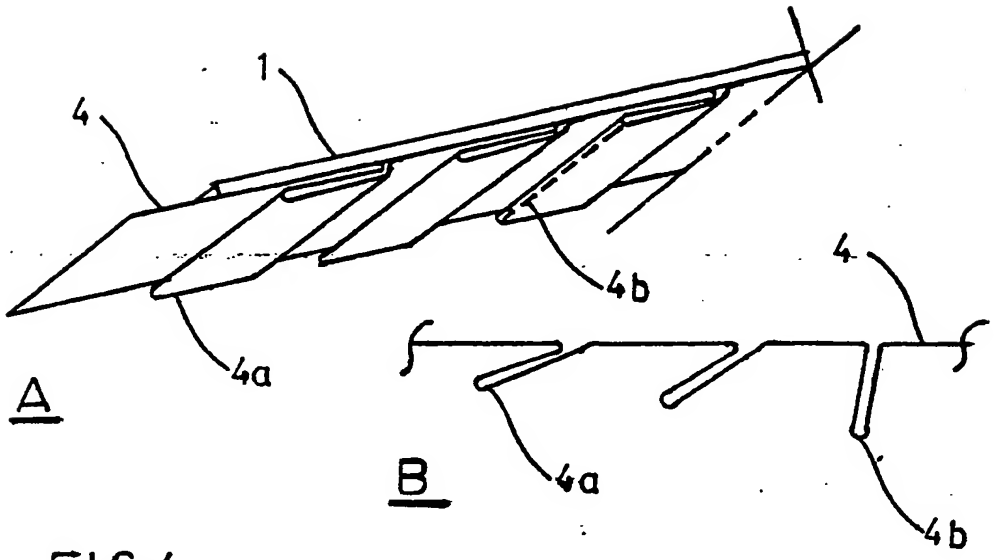

FIG. 4

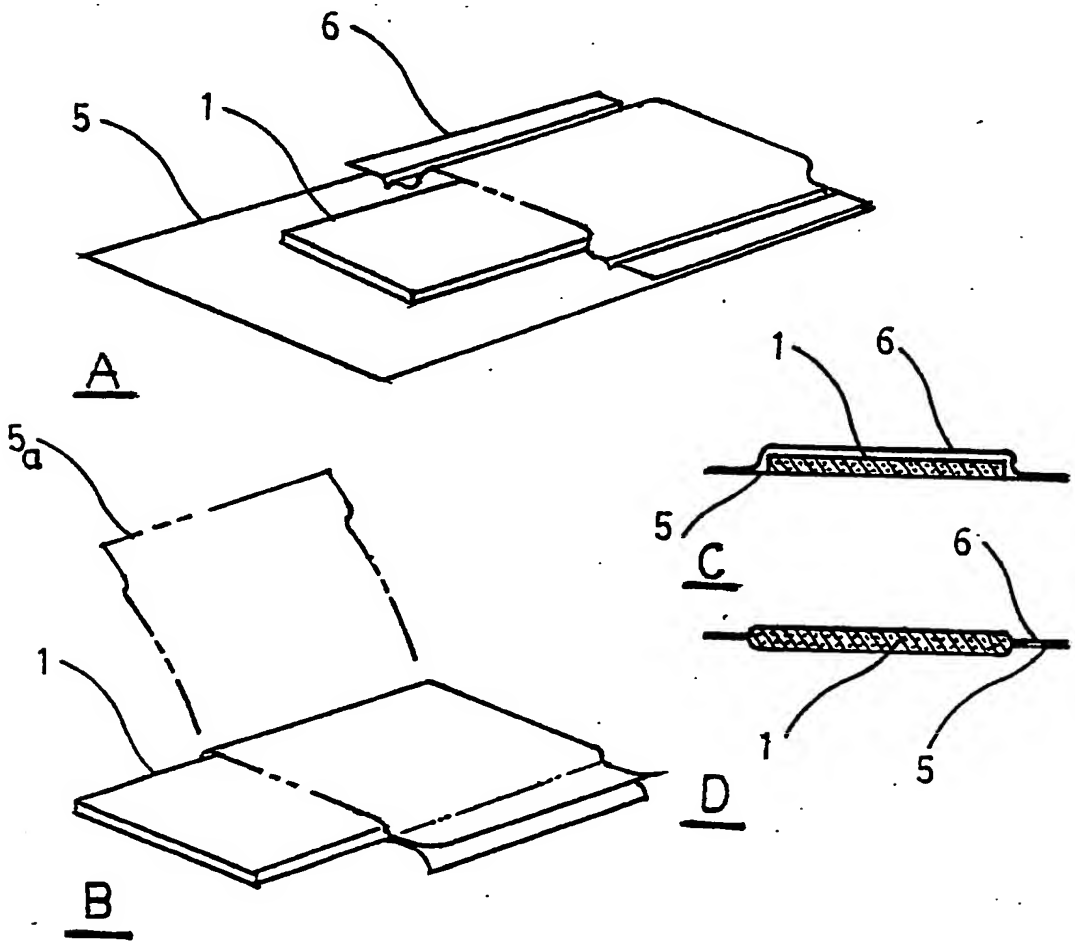

FIG. 5

INTERNATIONAL SEARCH REPORT

International Application No PCT/NO80/00001

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [3]

According to International Patent Classification (IPC) or to both National Classification and IPC 3

A 63 C 11/08, C 09 G 3/00

II. FIELDS SEARCHED

Minimum Documentation Searched [4]

Classification System	Classification Symbols
IPC 2	A 63 C 5/04, 7/02-04, 11/08; C 09 G 3/00; C 09 J 7/00, 02, 04
DeutscheKl	77b*5/04, 7/02-04, 11/08; 77b 15/02, 09, 17, 18
US Cl	280-11.37

Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched [5]

SE, NO, DK, FI classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT [14]

Category *	Citation of Document, [16] with indication, where appropriate, of the relevant passages [17]	Relevant to Claim No. [18]
X	NO, C, 62 954 published 1940, October 21, Hurum	1, 2, 3
X	DE, C, 611 031 published 1935, February 28, Vöster	1, 2
X	DE, A, 2 810 243 published 1978, September 14, Stöckl	1, 2
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IV. CERTIFICATION

Date of the Actual Completion of the International Search [2]	Date of Mailing of this International Search Report [2]
1980-02-27	1980-03-03
International Searching Authority [1]	**Signature of Authorized Officer [20]**
Swedish Patent Office	Sven König

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